



**US Army Corps  
of Engineers.**  
Construction Engineering  
Research Laboratory

# Fact Sheet

U.S. Army CERL  
P.O. Box 9005  
Champaign, IL 61826-9005

Public Affairs Office  
Phone: (217)-352-6511  
Fax: (217) 373-7222  
<http://www.cecer.army.mil>

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## **RAILER® REMOTE ENTRY DATABASE (RAILER RED)**

### **The Problem**

Military installations are mandated to make frequent railroad track inspections by Army Regulation 420-72 which references the requirements of the Army Track Standards (Technical Manual 5-628). Inspection frequency may be as often as monthly, depending on the track usage rate. Inspection results serve the dual function of identifying maintenance and repair (M&R) needs and locating any safety defects that require speed restrictions until corrected. The inspection process itself is labor-intensive and costly. With downsized and overburdened Directorate of Public Works staffs, much of this inspection cannot be completed. This increases the risk of track failure or rapid deterioration, resulting in reduced mission capability, greater injury potential, and higher M&R project costs.

The U.S. Army Construction Engineering Research Laboratory (CERL) developed the RAILER® Engineered Management System to help track maintenance planners perform a variety of tasks such as: evaluating track condition against track standards, assessing track condition through the use of condition indexes, estimating M&R costs for planning purposes, and setting priorities for M&R projects. RAILER® facilitates these tasks by effectively creating M&R strategies and work plans. To do this, RAILER® requires inventory and track inspection data. (See also CERL Fact Sheet CF-44.)

If inspections could be done faster and cheaper, installations would be able to complete them more frequently in line with requirements in the regulation. In addition, automated data collection would allow RAILER® users to quickly and accurately download inventory and inspection results into the RAILER® database for analysis.

### **The Technology**

Commercial off-the-shelf, pen-based "electronic clipboard" technology has been configured for the specific application of track inspection. CERL developed the software for a wide variety of clipboards. It automatically accepts track inspection data and transfers it electronically into RAILER® databases. The software has data checking features to reduce recording errors. Called RAILER® Remote Entry Database (RAILER RED), the software is available from the RAILER® Support Center at no additional fee for RAILER® subscribers. Users will need to purchase an electronic clipboard, which ranges in price from about \$2500 to \$3500 depending on brand, speed, and optional features.

### **Benefits/Savings**

RAILER RED improves the inventory and inspection information collection process through ease of use, organization, less writing (through "pick lists"), and error checking. Also, electronic data transfer to a RAILER® database eliminates the time previously required to transcribe data manually and therefore also improves accuracy. Hours of data transcribing time have been reduced to a very few minutes. Previously, it took as much time to transcribe inventory data as to collect it. For inspection, field tests have also shown that a single inspector will have the same productivity with or without using RAILER RED; however, by using RAILER RED with inspection teams of two, a vehicle, and two-way

radios productivity is improved. A three-person crew with RAILER RED, a vehicle, and radios fares even better as inspection productivity is improved ranging from 20 to 100% (depending on condition and track layout) over three single inspectors using manual methods.

### **Status**

RAILER RED Version 3.0 is now available for use with RAILER® Version 5.0. It has been successfully field tested at a number of installations including Fort Riley, KS; Sierra Army Depot, CA; Tooele Army Depot, UT; McAlester Army Ammunition Plant, OK; and the Crane Naval Surface Warfare Center, IN. It is being used productively at a number of military and civilian railroad sites.

### **Points of Contact**

CERL POC is Dr. Don Uzarski, COMM 217-373-6742; toll-free 800-USA-CERL; FAX 217-373-7222; e-mail [d-uzarski@cecer.army.mil](mailto:d-uzarski@cecer.army.mil) ; or CERL, ATTN: CECER-FL-P, P.O. Box 9005, Champaign, IL 61826-9005.

RAILER Support Center POC is Lynn Brownfield, COMM 217-333-5414, Department of Continuing Education, University of Illinois, 302 E. John St., Suite 202, Champaign, IL 61820.

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